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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Siegfried RUTHARDT et al

Serial No. 09/844,273

Examiner: D. Gorman

Filed: April 30, 2001

Art Unit: 3752

For: Common Rail Injector

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DEC 26 2002

GROUP 3700

IDS STATEMENT UNDER 37 CFR 1.97(i) and
STATEMENT OF RELEVANCE OF THE CITED PRIOR ART

Commissioner for Patents
Washington, DC 20231

Sir:

The undersigned hereby requests that the prior art cited on the attached prior art statement, which only recently came to the attention of the applicant, be placed of record in the application file.

This citation of prior art is made under 37 CFR 1.97(i).

The citation of this art is after the payment of the issue fee, and thus it is understood that unless it is alleged that one or more of these references are of a nature which would make one or more of the claims unpatentable, and that a fee is paid and petition to reopen prosecution is submitted, prosecution will not be reopened, and the prior art will not be considered by the US Patent and Trademark Office.

It is asserted that none of the cited prior art is of a nature which adversely affects the patentability of the allowed claims.

If any fees should become necessary for this application, the Commissioner is authorized to charge such to Deposit Account Number 07-2100.

The relevance of the prior art cited on the attached form 1449 is as follows:

EP 478099

This reference shows an oil pump for an internal combustion engine in which at least one embodiment has four piston/cylinder combinations, however none of these piston/cylinder combinations are disposed opposite each other as recited in the claims of this application.

DE 39 09 822

This reference teaches the general concept of an oil pump to provide an internal combustion engine with fuel under high pressure.

DE 195 49 108

The invention relates to a system for generating high fuel pressure for a fuel injection system used in internal combustion engines in which via a low-pressure pump fuel aspirated from a fuel tank is delivered via a low pressure line and at least one valve to a high-pressure pump, and some of the fuel stream is diverted to the return loop from the low pressure line at or upstream of the high-pressure pump. In the low pressure line, an electrically controlled flow regulating valve is inserted between the low-pressure pump and the high-pressure pump. The flow regulating valve splits the fuel stream supplied. One portion is delivered to the high-pressure pump, and the remainder is relieved into the return loop. The flow regulating valve requires little space and only a few connections and is simple to manipulate.

DE 195 42 561

In the structure of this reference, the opening of the valves is carried out by successive biasing with fuel kept at different high pressure levels. At the beginning of the opening process the valves are operated by fuel kept at a first higher level of between 800 and 1600 bar and then by fuel kept at a second lower level between 200 and 400 bar. At the beginning of the opening process until reaching a certain valve opening the valves are opened with the fuel at higher pressure and then up to reaching complete valve opening with the fuel at lower level.

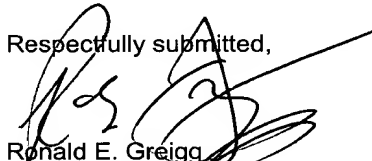
US 5,645,030

This reference teaches, in a motorbraking arrangement for a Diesel engine with at least one engine breathing valve and at least one fuel injector per cylinder and a high pressure fuel pump with a high pressure fuel reservoir for supplying high pressure fuel to the injectors, a control valve is provided for controlling the supply of fuel from the high pressure fuel reservoir to the breathing valve for its actuation during an engine compression stroke and a lower pressure fluid supply system is provided for operating the breathing valve during normal engine operation under the control of switch-over means which place the breathing valve in communication either with the high pressure fuel reservoir or with the lower pressure fluid supply system.

JP 9-317418

Objects of the present invention are to simplify engine structure, to reduce the number of parts, and to reduce production costs. The present invention relates to a 2 cycle diesel engine including: a fuel injection pump; a fuel injection valve; an exhaust valve with hydraulic piston; and a switching valve formed in the fuel high-pressure pipe from the fuel injection pump. The switching valve allows the high-pressure fuel oil to act on the fuel injection valve when the fuel cam is in operation, and the high-pressure fuel oil to act on the exhaust valve when the exhaust cam is in operation.

Respectfully submitted,



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